Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_

**Unit 6, Part 2 (DNA Replication) – Learning Targets**

Pre-AP Biology, Mrs. Krouse

**What will I be able to do when I’ve finished this lesson?**

* I can identify the purpose of DNA replication.
* I can identify and order the steps involved in DNA replication.
* I can explain the purpose of molecules (enzymes) used in DNA replication.

**What must I learn so I can do this?**

To be able to do this, I must be able to…

* Explain why DNA replication must take place before cell division.
* Describe where DNA replication begins using the following terms: origin of replication, replication bubble, and replication forks.
* Describe how prokaryotic chromosomes and replication are different from eukaryotic chromosomes and replication.
* Describe how the following enzymes are used during DNA replication: helicase, primase, DNA polymerase, and ligase.
* Describe the main differences between the leading and lagging daughter DNA strands.
* Explain why the lagging strand must be built in chunks (Okazaki fragments) based on the 3’ and 5’ ends of the parent DNA strand.

* Explain the difference between the semiconservative model of DNA replication and the conservative model of DNA replication. Identify which model is correct (the semiconservative model).
* Analyze diagrams of the steps of DNA replication, the leading vs. lagging strand, and the semiconservative vs. conservative model of DNA replication.
* Describe how DNA polymerase can proofread its errors during DNA replication.
* Describe how excision repair can be used to remove and repair damaged DNA.